

## ABSTRACT

The present invention is directed to methods and compositions for inhibiting or reducing tumor cell proliferation in an individual *in vivo*. More specifically, a tumor cell is contacted, *in vivo*, with a Rad51 inhibitor, and a polynucleotide capable of expressing functional p53 protein. In a further embodiment of the present invention the tumor cell is exposed *in vivo* to radiation or chemotherapeutic agents (*e.g.*, BCNU, CCNU, and DMZ, GB, cisplatin and the like). The Rad51 inhibitor may be selected from the group consisting of peptides, small molecules and Rad51 antisense molecules. The Rad51 antisense molecule and the p53 polynucleotide may be encoded on an expression vector under the control of one or more promoters, and the expression vector may then be incorporated into a viral genome, preferably an endo or retro virus, which is then used to introduce the expression vector into the tumor cell.